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APPLICATION NUMBER : 03293494

APPLICANT : FUJI ELECTRIC CO LTD;

INVENTOR : ENOMOTO HIROBUMI;

INT.CL. : H01M 4/90 B01J 23/89 H01M 4/92

TITLE : CATALYST FOR PHOSPHORIC ACID TYPE FUEL CELL AND MANUFACTURE
THEREOF

ABSTRACT : PURPOSE: To improve the catalyst activity and stability of a battery by using a ternary alloy carrying catalyst made of Pt-Mo-Co in a phosphoric acid type fuel cell.

CONSTITUTION: A catalyst carrying a ternary alloy of Pt-Mo-Co is used for a phosphoric acid type fuel cell, and the alloy composition is set to 10-15wt.% of Mo, 10-25wt.% of Co, and 50-80wt.% of Pt. For its manufacture, ammonia water is added to a mixed solution of cobalt nitrate and molybdenum pentachloride to provide pH8, a homogeneous mixed solution of a hydroxide of Mo and Co is manufactured, this solution is added to an aqueous solution of a platinum carrying catalyst manufactured separately into full contact, then heat treatment is applied. When a ternary alloy carrying catalyst thus obtained is used, the catalyst activity and stability can be improved.

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AN - 1993-209759 [26]

AP - JP19910293494 19911111

CPY - FJIE

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FS - CPI;EPI

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PA - (FJIE) FUJI ELECTRIC MFG CO LTD

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XA - C1993-093285

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XP - N1993-160979

AB - J05135772 The mfr. comprises dissolving Co nitrate and Mo pentachloride into EtOH and adding ammonia water to control the pH to 8; applying ultrasonics to obtain a homogeneous soln.; adding an aq. soln. of a catalyst carrying Pt, and after sufficiently contacting the soln. with the catalyst, filtering, washing with water, and drying; and heat treating the obtd. prod. at 800 - 1,000 deg.C in an inert gas atmos., to obtain a catalyst carrying a Pt -Mo-Co ternary alloy.

- The pref. alloy contains (by wt.), 10 - 25% each of Co and Mo, and the balance of Pt.

- USE/ADVANTAGE - Used for gas-diffusion electrodes having an included matrix, and the electrode made from an electrode substrate and a catalyst layer. (Dwg.0/0)

IW - PHOSPHATE FUEL CELL CATALYST MANUFACTURE GAS DIFFUSION ELECTRODE LAYER
DISSOLVE COBALT NITRATE MOLYBDENUM PENTA CHLORIDE ETHANOL ADD AMMONIA
WATER APPLY ULTRASONIC ADD SOLUTION PLATINUM@ CATALYST HEAT

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DISSOLVE COBALT NITRATE MOLYBDENUM PENTA CHLORIDE ETHANOL ADD AMMONIA
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NC - 001

OPD - 1991-11-11

ORD - 1993-06-01

PAW - (FJIE) FUJI ELECTRIC MFG CO LTD

TI - Phosphate fuel cell catalyst mfr. for gas diffusion electrode layer -
by dissolving cobalt nitrate and molybdenum penta:chloride in ethanol,
adding ammonia water, applying ultrasonics, adding soln of platinum@
catalyst and heating

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